



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,292	01/11/2005	Thomas Daniel	29827/40753	1444

4743 7590 10/27/2005

MARSHALL, GERSTEIN & BORUN LLP
233 S. WACKER DRIVE, SUITE 6300
SEARS TOWER
CHICAGO, IL 60606

EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

1713

DATE MAILED: 10/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/521,292

Applicant(s)

DANIEL ET AL.

Examiner

Michael Bernshteyn

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/19/2005</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: there are discrepancies between the claims and the specification. The applicant does not show in two examples what water content was specifically in the **sodium acrylate** used for the polymerization (Comparative example 1, page 5, line 35, and Inventive example 1, page 7, line 1 of the specification). Therefore, there is no way to enable one skilled in the art to which it pertain, or with which it most nearly connected, to make and/or use the invention. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 6 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not clear how important

Art Unit: 1713

practically to use solid **anhydrous** sodium acrylate which later should be dissolved or dispersed in aqueous medium.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 recites the limitation "obtainable" in line 6. There is insufficient antecedent basis for this limitation in the claim.

The claim is indefinite if undue experimentation is involved to determine boundaries of protection. This rationale is applicable to polymer "obtainable" by a stated process because any variation in any parameter within the scope of the claimed process would change the polymer produced. One who made or used a polymer made by a process other than the process cited in the claim would have to produce a polymer using all possible parameters within the scope of the claim, and then extensively analyze each product to determine if this polymer was obtainable by a process within the scope of the claimed process. See *Ex parte Tanksley*, 26 USPQ 2d 1389.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1713

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5 and 8-10 are rejected under 35 U.S.C. 102(b) as anticipated by Tsubakimoto et al. (U.S. Patent 4,286,082).

With regard to limitation of instant claims 1-4 and 8-9, Tsubakimoto discloses an **absorbent resin composition** obtained by copolymerizing in an aqueous solution a mixture of 100 parts by weight of an acrylate salt monomer

Art Unit: 1713

(B) composed of 0 to 50 mol % of acrylic acid and 50 to 100 mol % of an alkali metal acrylate and 0.001 to 5 part by weight of a crosslinkable monomer (C) having 2 to 4 groups selected from the group consisting of $\text{CH}_2=\text{CHCO}-$, $\text{CH}_2=\text{C}(\text{CH}_3)\text{CO}-$ and $\text{CH}_2=\text{CH}-\text{CH}_2-$ in the molecule in the presence of at least one surface-active agent (A) (abstract).

Tsubakimoto discloses that the **acrylate salt monomer (B)** is composed of 0 to 50 mol % of acrylic acid and 50 to 100 mol % of an **alkali metal acrylate**. If the proportion of the alkali metal acrylate is less than 50 mol %, the resulting gel-like hydrous polymer is highly sticky and poorly releasable from the polymerization vessel, thus making its handling difficult at the time of cutting or shaping by an extruder, for example. That's why in the acrylate salt monomer (B) the proportion of the alkali metal acrylate may be **100 mol %** (col. 3, lines 20-30). If desired, part of the acrylic acid may be replaced with other water-soluble polymerizable carboxylic acid such as methacrylic acid (col. 3, lines 43-45).

Tsubakimoto discloses that examples of the alkali metal are those widely used, such as lithium, **sodium** or potassium. Sodium, in particular, is preferred in safety, in view of the fact that **sodium polyacrylate** is accepted as a food additive in Japan (col. 3, lines 46-50).

With regard to limitation of instant claim 5, Tsubakimoto discloses that the **crosslinkable monomer (C)** is having in one molecule 2 to 4 groups selected from the group consisting of $\text{CH}_2=\text{CHCO}-$, $\text{CH}_2=\text{C}(\text{CH}_3)\text{CO}-$ and $\text{CH}_2=\text{CH}-\text{CH}_2-$. Preferred as such crosslinkable monomer (C) is at least one member selected from the group consisting of **diacrylates** and **dimethacrylates**

Art Unit: 1713

of ethylene glycol, **triacylates** and **tridimethacrylates** of trimethylolpropane, etc. Of these compounds, **N,N'- methylenebisacrylamide** or **trimethylolpropane triacrylate** is particularly preferred (col. 3, lines 51-66). The amount of the crosslinkable monomer (C) is **0.001 to 5 parts** by weight per 100 parts by weight of the acrylate salt monomer (B).

With regard to limitation of instant claim 10, Tsubakimoto discloses that in Example 3 the absorbent resin composition was prepared by the same procedure as in Example 1 (where **sodium acrylate** was used) except that an acrylate salt monomer (B) consisting of **potassium acrylate** was used (col. 8, lines 51-54 and Table 1, col. 11 and 12).

The initiator used in the aqueous-solution polymerization may be an ordinary water-soluble radical polymerization initiator. For example, ammonium persulfate, potassium persulfate, and **hydrogen persulfate** can be cited. There are also usable redox type initiators consisting of said initiators combined with reducing agents such as sodium hydrogensulfite, **L-ascorbic acid** or ferrous salts (col. 4, lines 63-68 and col. 5, lines 1-2).

Therefore, all the limitations of the instant claims 1-5 and 8-10 are expressly met by Tsubakimoto.

5. Claims 6 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tsubakimoto et al.

With regard to limitation of instant claims 6 and 7, Tsubakimoto does not disclose that aqueous monomer solution is prepared using solid anhydrous sodium acrylate and solid sodium acrylate has water content from 0.1% to 10%

Art Unit: 1713

by weight. Claims 6 and 7 are drawn to the process although they contain the limitations of the product made by a specific process. Therefore, this part is directed to a **product by process**, and it is believed that the product, i.e. sodium acrylate of Tsubakimoto is substantially the same as the sodium acrylate recited in claims 6 and 7, even though obtained by a different process, consult *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Therefore, it is reasonable to believe that the aqueous monomer solutions for producing a sodium acrylate polymer in view of substantially identical monomer (**sodium acrylate**) and the solvent (**water**) (compare US'082, page 6, Table and the specification, page 12, tables 1 and 2) being used by both Tsubakimoto and the applicant are identical. Since the USPTO does not have proper equipment to do the analytical test, the burden is now shifted to the applicant to prove otherwise.

Therefore, the instant claims are obvious variants of claims of US Patent 4,286,082, and one skilled in the art would not be able to practice the invention of the instant claims without infringing the invention of US Patent 4,286,082.

Conclusion

Other references used but not cited in this office include U.S. Patents 4,286,082, 6,576,713, 6,225,401, 4,093,776, 6,586,549, 6,777,385, 6,927,268, 6,835,790, 3,479,282 and GB 1,073,856 are shown on the Notice of References Cited Form (PTO-892).

Art Unit: 1713

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn
Patent Examiner
Art Unit 1713

MB
10/24/2005


DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700